

**ABSTRACT OF THE DISCLOSURE**

The present method of forming a silicon oxide layer comprises providing two frequency excitation plasma CVD device which comprises a high frequency electrode, a susceptor electrode, and two matching box for impedance matching between the electrodes and a power supply, wherein one side electrode constituting a tuning condenser of a matching box toward the high frequency electrode is the high frequency electrode; placing a substrate on the susceptor electrode; applying high frequency electric power on the high frequency electrode and the susceptor electrode respectively; and forming a silicon oxide layer on the substrate by generating plasma with using a reaction gas of which main reaction gas is a mixing gas of monosilane and nitrous oxide.